

b1
equations (5a) and (5b) do not have a unique solution unless three or more non-colinear points are contained in A. Generally speaking, then, it requires 3 points to choose a georeferencing function from the family of general linear transformations. When there are four points or more, it is possible to compute a standard deviation of errors using the formula:

$$s = \sqrt{\frac{\sum_{i \in A} \left[\left(\hat{a}_{11}x_i + \hat{a}_{12}y_i + \hat{b}_1 - Lon_i \right)^2 + \left(\hat{a}_{21}x_i + \hat{a}_{22}y_i + \hat{b}_2 - Lat_i \right)^2 \right]}{n - 3}} \quad (6)$$

where s is an estimator for the amount of error to be expected between actual and predicted latitude and longitude values.

IN THE ABSTRACT:

Please replace the as-filed Abstract with the following:

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com